

# THE BUTTERFLIES OF THE SIMLA HILLS

BY

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## Part III

(Continued from page 429 of this Volume)

### LYCÆNIDÆ

This family, which includes all the Blues, Coppers and Hairstreaks, is, as might be expected, very well represented in the Simla Hills. The palearctic element, which prevails in Kashmir and to the North-West, is here still very strong; but a number of Indo-Malayan forms are also to be found. Speaking broadly, the species of the *Lycæninae* group affect the open spaces—gardens, meadows and grass-lands and are, for the most part, rather common and much in evidence; while the insects of the other groups keep to the forests and wooded valleys and nullahs and have to be searched for.

152. *Castalius rosimon rosimon*. Fabricius.

(Bing. 766; deN. 759; Ev. H14 (1) ).

This beautiful blue belongs rather to the plains of Southern, Central and Eastern India than to the hills. It is not particularly common so far to the north-west, but some may be found along the foot of the hills at almost any time of the year.

153. *Tarucus theophrastus nara*. Kollar.

(Bing. 762; deN. 752, 753; Ev. H15 (2) ).

Common in the plains and submontane tracts, less so in the hills. Anyone looking out for blues is, however, sure to pick up several each year. Is more often seen after the rains and flies in gardens and round meadow flowers.

154. *Tarucus venosus*. Moore.

(Bing. 763; deN. 757; Ev. H15 (3) ).

Considerably rarer than the last, but taken occasionally in the valleys below 5,000 ft. I have it from the Sutlej below Narkanda (September) and from the valley below Kasumpti (October).

155. *Euchrysops cnejus*. Fabricius.

(Bing. 761; deN. 745-749; Ev. H16 (1) ).

Very common in the plains and the outer hills, less so in the inner hills to about 8,500 ft. Flies summer and autumn and, like other species of the group, is fond of fields and roadside hedges.

*Euchrysops pandava pandava*. Horsfield.

(Bing. 760; deN. 750; Ev. H16 (3) ).

Recorded from the Himalayas, but the Simla Hills seem to be rather beyond its extreme westerly range. It is rare in the Mussoorie Dun where I have taken only one or two, but may possibly extend along the lower hills into our limits. I have noticed that it is fond of leguminous trees and shrubs.

156. *Everes argiades diporides*. Chapman.

(Bing. 735 ; deN. 716 ; Ev. H17 (1) ).

Probably more common than would appear from the number actually caught, but it is a small inconspicuous insect which escapes notice. I have taken a few, usually in meadows, in the autumn months between 6,500 and 9,000 ft.

\*157. *Everes dipora*. Moore.

(Bing. 735 ; deN. 716 ; Ev. H17 (2) ).

The recorded range is from ' Kashmir to Northern Burma ', but seems to be very rare in the Western Himalayas and not common anywhere. I have no personal knowledge of its appearance anywhere west of Sikkim.

158. *Lycænopsis (= Cyaniris) vardhana*. Moore.

(Bing. 685 ; deN. 675 ; Ev. H20 (2) ).

Not uncommon in this district at elevations between 6,000 and 9,000 ft. and the observant collector will usually secure all the specimens he needs. There were one or two places about Mashobra, Mahasu and Kufri where I generally found quite a number at some periods of the year. May and June are the best months, but a few may also be seen after the rains. Likes wooded surroundings as a rule, and I have noticed that the Pierid, *Gonepteryx zaneka*, is often found in the same spots.

159. *Lycænopsis albocærulea*. Moore.

(Bing. 689 ; deN. 678 ; Ev. H20 (6) ).

This species is here at its western limits and is distinctly rare in the Simla Hills. My notes show only one taken on the road to Chail in October.

160. *Lycænopsis puspa gisca*. Fruhstorfer.

(Bing. 691 ; deN. 681 ; Ev. H20 (15) ).

This butterfly, which is so common in most places within its range, is comparatively rare in these hills. Is rather more likely to be found in the lower valleys, but has been taken in Simla and as high up as Kufri and Fagu. Summer and autumn.

161. *Lycænopsis cardia dilecta*. Moore.

(Bing. 701 ; deN. 689 ; Ev. H20 (18) ).

Like *albocærulea*, is here at the western limits of its range and is very rare. I can record one specimen only, a worn male taken near Kufri village in October.

162. *Lycænopsis huegelii huegelii*. Moore.

(Bing. 704 ; deN. 690 ; Ev. H20 (19) ).

No one who takes the least interest in the Simla butterflies can help noticing this beautiful blue. It abounds at nearly all times from March right on to December, flying about the gardens, roadside hedges and shrubs and the sunny clearings in woods. I have seen it as low down as Dharmapore (3,000 ft.) and have taken it at 12,000 ft. on the summit of Huttoo.

163. *Lycænopsis argioius cælestina*. Kollar.

(Bing. 703 ; deN. 688 ; Ev. H20 (20) ).

Common from the spring to the late autumn and found very nearly everywhere except deep forest from 2,000 to 12,000 ft.

164. *Lycæna astrarche*. Bergstrasser.(Bing. 705 ; deN. (as *medon*) 647 ; Ev. H23 (9) ).

Very plentiful from spring to autumn and to be seen even on warm days in the winter months. Likes open, sunny places and flutters about gardens and the low vegetation along the roads and in meadows.

165. *Lycæna galathea galathea*. Blanchard.

(Bing. 716 ; deN. 665 ; Ev. H23 (15) ).

Common in Kashmir, but getting rarer towards the east and distinctly uncommon here. It will be confined to the inner hills. I know of one or two taken beyond Narkanda. Is mainly a spring and early summer butterfly.

\*166. *Lycæna pheretes lehana*. Moore.

(Bing. 719 ; deN. 664 ; Ev. H23 (16) ).

A species of the high mountains of the interior. It is not likely to be found in the Simla Hills much below 10,000 or 12,000 ft. and must therefore be looked for on the ranges beyond Narkanda and Baghi.

\* 167. *Lycæna eros ariana*. Moore.

(Bing. 709 ; deN. 649 ; Ev. H24 (2) ).

I have not taken this myself within our area, but it is not uncommon in Kulu and Lahoul and is said to come down to 8,000 ft. in Kumaon so it should certainly be found. I expect the best place to look for it would be in the grass country round Matiana, Narkanda and Baghi in the early summer.

168. *Chilades laius laius*. Cramer.

(Bing. 728 ; deN. 672 ; Ev. H21 ).

A very common butterfly in the plains and fairly plentiful from spring to autumn in the tracts at the foot of the hills wherever the lime trees grow. Does not, to my knowledge, extend any distance into the hills.

\* 169. *Zizera trochilus trochilus*. Freyer.

(Bing. 729 ; deN. 673 ; Ev. H22 (1) ).

Is generally common in grass country in the plains and lower hills, though it is usually overlooked owing to its very small size and insignificance. I have not taken it inside our district but it is certain to be found in suitable places round Kalka.

170. *Zizera maha maha*. Kollar.

(Bing. 721 ; deN. 694 ; Ev. H22 (2) ).

Very common in the plains and in the country bordering on the plains throughout the year. Extends, though not quite so abundantly, into the hills to at least 9,000 ft., especially in the autumn months. Flies weakly about sunny gardens and grass slopes.

171. *Zizera lysimon*. Hubner.172. *Zizera gaika*. Fabricius.173. *Zizera otis otis*. Fabricius.

(Bing. 722-24 ; deN. 699, 702, 703 ; Ev. H22 (3 to 5) ).

All these three are really butterflies of the plains, but spread into the outer hills and will be found round Kalka and probably as far as Dharpore and Solon. Rough grass country is the place to look for them.

174. *Syntarucus plinius*. Fabricius.

(Bing. 764 ; deN. 758 ; Ev. H27).

Not uncommon before and after the rains but, like many of the less prominent blues, often escapes notice. Flies about gardens and shrubs and bushes in the open.

175. *Catachrysops strabo*. Fabricius.

(Bing. 759 ; deN. 743 ; Ev. H28 (1) ).

A plains insect and more or less common along the lower hills, but also found occasionally in Simla and beyond up to nearly 10,000 ft. Spring to autumn.

176. *Lampides* (= *Polyommatus*) *bœticus*. Linnæus.

(Bing. 772 ; deN. 767 ; Ev. H29).

Common up to 10,000 ft., summer and autumn. The specimens found in the hills do not seem to run to the same size as in the plains where it literally swarms in the spring months.

\* 177. *Nacaduba nora*. Felder. (= *ardates*. Moore.)

(Bing. 746 ; deN. 730 ; Ev. H30 (14) ).

*Nacaduba dubiosa indica*. Evans.

(Ev. H30 (15) ).

*Nacaduba noreia hampsoni*. DeNiceville.

(Bing. 743 ; deN. 732 ; Ev. H30 (16) ).

The *Nacaduba*s are a difficult genus and Evans' recent rearrangement has meant some reshuffling of the names under which some species were listed by the older authorities. The three mentioned above are the only ones likely to be found in our limits. DeNiceville records *ardates* from Poonch in Kashmir, but I can find no other definite report of any of them having been taken quite so far to the west. I have *nora* (or *ardates*) from the Kumaon and Garhwal terais and *hampsoni* from the Mussoorie Dun, but these are the nearest localities I can vouch for. They may possibly turn up along the foot of the hills ; but will, in any case, be very rare.

*Jamides bochus bochus*. Cramer.

(Bing. 751 ; deN. 733 ; Ev. H31 (1) ).

*Jamides celeno celeno*. Cramer.

(Bing. 756 ; deN. 738 ; Ev. H31 (6) ).

Both these are continental and eastern Himalayan and, as far as I know, there has yet been no definite record from the Simla Hills. Both are to be had in the Mussoorie Dun and their appearance a little bit further west is a possibility. They would only be found in damp, wooded places at the foot of the hills.

178. *Azanius ubaldus*. Cramer.

(Bing. 725 ; deN. 707 ; Ev. H32 (1) ).

179. *Azanius uranus*. Butler.

(Bing. 726 ; deN. 708 ; Ev. H32 (2) ).

Both these species are fairly common in the Punjab plains and extend a little way into the outer hills, but are much scarcer. They will be found, usually in the autumn months, around the babul trees in the jungle near Kalka.

\*179. *Azanus jesous gamra*. Lederer.

(Bing. 727; deN. 709; Ev. H32 (4)).

A much rarer species of the genus and one I have not taken anywhere in India. It is more a southern and western India insect, but deNiceville records it from Ambala and there is just a chance it may be found with the other two near Kalka.

180. *Heodes (= Chrysophanus) pavana*. Kollar.

(deN. 879; Ev. H35 (1)).

Very common, spring to autumn, from 6,000 ft. to the inner ranges. It may be seen every day in gardens, round road side vegetation and in sunny meadows.

181. *Heodes phlœas indicus*. Evans.

*Heodes phlœas flavens*. Ford.

These are two very slightly differentiated forms of the species more familiarly known to us as *phlœas timeus*. Cramer. Very common at all times except the midwinter months, *indicus* predominating in the outer ranges and *flavens* in the interior, though they overlap considerably.

\*182. *Heodes kasyapa*. Moore.

(deN. 881; Ev. H35 (7)).

This beautiful 'Copper' is common in Kashmir, less so in Lahoul and Kulu, and very much scarcer further east. Has been recorded by deNiceville as taken 'on the Himalaya Tibet road near Simla' and Evans extends its range to Mussoorie. I have never taken it myself in the Simla limits nor heard of a capture within recent years. On the analogy of its habits in Kashmir, it is most likely to be found in the summer in open spaces in woods at elevations of not less than 8,000 ft. and should be looked for in such surroundings in the Matiana-Narkanda-Baghi country.

183. *Heliophorus (= Ilerda) sena*. Kollar.

(deN. 883; Ev. H36 (1)).

Very common spring to autumn. Flies round low vegetation by road sides and in meadows and waste ground.

184. *Heliophorus oda oda*. Hewitson.

(deN. 885; as *tamu*; (Ev. H36 (4)).

Common in Kashmir and fairly so in Kumaon, but seems to be rare in the intervening country. I have taken it on Summer Hill and in the Mahasu woods, but saw very few in the course of all my butterfly collecting in Simla. I have seen it only in the spring and summer.

185. *Heliophorus androcles coruscans*. Moore.

(deN. 887; Ev. H36 (5)).

This beautiful insect, very aptly called the 'Green Sapphire' by Evans, is not uncommon in the summer months, though it also flies, much less frequently, after the rains. I found some of the nullahs on the north side of the Mahasu ridge were good spots for this butterfly, but it also comes sometimes into gardens.

\*186. *Strymon sassanides*. Kollar.

(deN. 862; Ev. H39 (1)).

Is said to be not rare but somehow I have never come across it. Its real home is further to the north-west.

\*187. *Euaspa milionia*. Hewitson.

(deN. 876 ; Ev. H41 )

Another not uncommon butterfly which, however, I was never able to find. DeNiceville records it as single brooded and flying in May and June. I understand it keeps to damp and shady surroundings where there is bush growth.

188. *Thecla icana*. Moore.

(deN. 871 ; Ev. H42 (1) ).

I have a male from Narkanda taken in August, and Col. Evans has caught it on Kufri Hill, also, I believe, in the autumn. The late Col. Chaldecott took several on the Jalauri Pass in August and September. Is not common anywhere.

189. *Thecla bieti dohertyi*. DeNiceville.

(de N. 872 ; Ev. H42 (2) ).

Ranges 'from Kulu to Garhwal' but appears to be confined to the inner hills. Col. Chaldecott took a few on the Jalauri Pass at 10,500 ft. in August. This is the only definite record I have of its actual appearance in our neighbourhood.

\*190. *Thecla ataxus ataxus*. Doubleday.

(deN. 865 ; Ev. H42 (4) ).

Is said to occur from Murree to Kumaon, but is a very rare butterfly which I have not come across.

191. *Thecla birupa*. Moore.

(deN. 870 ; Ev. H42 (12) ).

Simla is the western limit of the range of this species and, though fairly common in Kumaon and the Mussorie hills, it is distinctly scarce in our area. I have taken only one or two, flying round the small brown oaks on Kufri Hill in June.

192. *Thecla syla syla*. Kollar.

(deN. 869 ; Ev. H42 (14) ).

The only really common species of the genus in Simla and the neighbourhood. It will be found in nullahs and wherever there are oak trees, from 6,000 to 10,000 ft. Flies both before and after the rains.

193. *Thecla ziha*. DeNiceville.

(deN. 874 ; Ev. H42 (18) ).

Another very rare butterfly. I know of only one taken in Simla and I myself have not seen it. All the records point to its being a summer butterfly.

194. *Chaetoprocta odata*. Hewitson.

(deN. 877 ; Ev. H43).

If you can hit upon one of the walnut trees which this little chap has taken into favour, you will get as many as you want in an hour or two. It does not, however, distribute itself generally over the country and is abundant only for a very short season in June.

\*195. *Curetis acuta dentata*. Moore.

(Bing. 774 ; deN. 858 ; Ev. H45 6) ).

This is an insect which has hitherto been looked on as a variety of the changeable *C. bulis*, Doubleday and Hewitson, but Evans has recently separated it as a distinct species. *Bulis* itself has been reported from Mussoorie, but I do not think it is likely to be found as far west as Simla. DeNiceville has

recorded *dentata* from Mandi and it is certainly common in the Mussoorie Dun. I can trace no definite record of its appearance in the intervening country, but have no doubt it will be found in the lower hills and valleys.

196. *Iraota timoleon timoleon*. Stoll.

(deN. 775, 776 ; Ev. H46 (1) ).

deNiceville records this from Dalhousie and Dagshai and I got a dwarfed and worn specimen one May on the Kasauli road above Kalka. It is always rare in this part of India.

197. *Arhopala (= Amblypodia) dodonæa*. Moore.

(deN. 817 ; Ev. H50 (51) ).

198. *Arhopala rama rama*. Kollar.

(deN. 807 ; Ev. H50 (52) ).

These two, which have at various times been taken to be dimorphic forms or as the male and female of the same species, are so similar in their habits and haunts that they might well be dealt with together. Their respective specific rank is now well established, but they have much in common and they are often, in flight, mistaken for each other. Both are particularly addicted to wooded nullahs where there is running water, and they frequently settle on damp patches of ground and on the bushes round. They are usually common in such surroundings ; but both, and especially *rama*, may also be found in oak woods and flying into gardens. The best season is before the monsoon, *dodonæa* usually appearing a trifle later than the other ; but they also fly, rather less commonly, from August to October.

199. *Arhopala ganesa ganesa*. Moore.

(deN. 836 ; Ev. H50 (66) ).

Habits and seasons much the same as those of the last two species. Its special haunts are damp, shaded nullahs in wooded country, but it may sometimes be taken round oak trees. May and June are the best months, but individuals may occasionally be seen till October.

\*200. *Surendra quercetorum quercetorum*. Moore.

(deN. 778 ; Ev. H51 (1) ).

Evans gives the Dun as the westerly limit of the range of this butterfly. It is comparatively common there in low jungle along the foot of the hills. Though there is no authentic record of its appearance further west, I should not be surprised if it yet turns up in the very similar country round Kalka.

\* 200. *Apharitis lilacinus*. Moore.

(deN. 907 ; Ev. H57 (3) ).

This is really a Central India butterfly, and I was very surprised to see that Col. Evans mentioned Hardwar and Kasauli as places where it had been taken. I include it in the list on his authority, but its appearance here must be very exceptional.

201. *Spindasis (= Aphnæus) vulcanus vulcanus*. Fabricius.

(deN. 903 ; Ev. H58 (1) ).

Mainly an insect of the plains, but will always be found, though never plentifully, in the lower hills from Kalka to Dharpore and Sabathu and, rarely, even as high up as Simla and Mashobra. I have taken one or two specimens in June. It keeps to open, sunny surroundings and flies about shrubs and low trees.

\* 202. *Spindasis ictis ictis*. Hewitson.

(deN. 914 ; Ev. H58 (5) ).

I have not seen this in the Simla district. DeNiceville records it from Mandi in the Western Himalayas and it should occur but must be very rare.

203. *Spindasis elima uniformis*. Moore.

(deN. 919 ; Ev. H58 (6) ).

Said to be not rare but I have only come across it once in our area when I took a specimen on the eastern slopes of the Chail ridge in June. It is fairly common between Mussoorie and Chakrata in the autumn and, since it extends to Kashmir and Chitral, one would expect to pick it up more frequently here. Like all the *Spindasis*, it flies fast and settles unobtrusively and calls for a quick eye for detection and capture.

\* 204. *Spindasis nepalicus nepalicus*. Moore.(deN. 923 as *zaffra* ; Ev. H58 (8) ).

deNiceville has recorded this insect from Kulu in June and Mackinnon from Mussoorie in May. It is rare and I have not seen it within the district.

*Spindasis lohita*. Horsfield.

(deN. 910 ; Ev. H58 (12) ).

DeNiceville refers to *lohita* as being found throughout the Himalayas, while Evans states that the Himalayan local race, *himalayanus*, Moore, is to be found only from Sikkim eastwards. I have taken one or two of the *lohita* group at Ranibagh in Kumaon, but I doubt very much whether any will be found as far to the west as Simla.

205. *Pratapa* (= *Camena*) *icetas icetas*. Hewitson.

(deN. 897 ; Ev. H61 (5) ).

A rarity throughout its range from Kashmir to Kumaon. DeNiceville mentions captures on Tara Devi. Coming to more recent years, my notes record three only—two on Summer Hill and one at S. Damiano, Mashobra. These three were all in open spaces in woods between June and August.

*Tajuria cippus cippus*. Fabricius.(deN. 931 as *longinus* ; Ev. H65 (6) ).

*Tajuria* is a genus which belongs rather to the Eastern Himalayas and Malaya and *cippus* is the only one of its species at all likely to be found so far west. It is stated to occur throughout the outer Himalayas, but I cannot trace any authentic record of its appearance in the Simla Hills. I have taken it in Kumaon and know of a capture near Saharanpore. It may turn up at lower elevations in the District.

206. *Horaga onyx onyx*. Moore.

(deN. 960 ; Ev. H82 (1) ).

Kulu, Kangra and Dehra Dun are all mentioned as places where this butterfly has been taken, so it should occur in the intervening tracts. I have seen one in a collection at Simla but the exact locality was not given. I have not myself found it in this part of the country, and it is presumably very rare here.

\* 207. *Horaga viola*. Moore.

(deN. 965 ; Ev. H82 (4) ).

A species which ranges from Kangra to Burma but is rare everywhere. I have never found it in the Simla Hills and cannot trace any definite record of a capture here.



208. *Deudoryx epijarbas ancus*. Fruhstorfer.

(deN. 986 ; Ev. H88 (1) ).

Not uncommon in June and July. Though strong and rapid fliers, they are easy to catch as they are fond of coming into gardens and settling on flowers. I took several in this way.

209. *Virachola perse perse*. Hewitson.

(deN. 1013 ; Ev. H89 (3) ).

Occurs from Kangra eastwards, but is very rare here near the westerly limit of its range. One taken 'somewhere near Kalka' by a soldier collector is the only actual case of capture in the district that I know of. It is elsewhere fond of guava plantations, and these will be the best places to look for it. Will not usually be found much above the 3,000 ft. level.

\* 210. *Rapala varuna grisea*. Moore.

(deN. 999 ; Ev. H90 (10) ).

A rare butterfly. I have only taken it at low elevations in Kumaon, but there is a record of a capture in Kangra and it should be found in the country between.

\* 211. *Rapala melampus*. Cramer.

(deN. 1006 ; Ev. H90 (15) ).

Occurs at low elevations from Murree eastwards, but is rare west of Mussoorie. I have not taken it in the district.

212. *Rapala nissa nissa*. Kollar.

(deN. 1002 ; Ev. H90 (18) ).

Quite the most common representative of the genus in the Simla Hills. They were sometimes to be taken in plenty dashing round and settling on low growing shrubs in some of the wooded nullahs behind Jakko and Mahasu in June and July just before the rains. Occasionally come to the flowers in gardens. I have not seen it below 6,000 ft. in the Simla Hills.

213. *Rapala micans selira*. Moore.

(deN. 990 ; Ev. H90 (19) ).

Not uncommon. May, between May and September, be picked up at any time and anywhere except very bare country. Seems to be specially attracted by wild indigo flowers. Does not appear to venture below 5,000 ft. and will probably be found up to 10,000 ft.

\* 214. *Sinthusa chandrana chandrana*. Moore.

(deN. 1017 ; Ev. H91 (2) ).

\* 215. *Sinthusa nasaka pallidior*. Fruhstorfer.

(deN. 1015 ; Ev. H91 (3) ).

Both have been recorded from 'Kangra to Kumaon' and as being rare. I have not found any of the genus anywhere west of Sikkim. They appear to fly only in the spring and summer and will probably not be found below 5,000 ft.

HESPERIDÆ

The 'Skippers,' as a general rule, receive very little attention from the ordinary collector. The butterflies of which the family is composed are, with a few exceptions in the Indo-Malayan groups, small, dingy and inconspicuous

insects. Only a small proportion of the numerous species display any partiality for open country or venture into gardens and habited places. Most of them and all the finer species, avoid flying in the open and prefer to hide in wooded ravines and forest clearings which are not easy of access. Several species fly only in the early mornings or in the dusk of twilight.

It is therefore not a matter for surprise that the family should be poorly represented in most collections. Only in the Natural History museums and in the larger specialist collections is it given the place it should have; and even these are often not as complete as their curators would wish.

It is possible that greater interest might have been stimulated had either DeNiceville or Bingham been able to complete their works on the butterflies of India. But neither ever reached the *Hesperidae*; and the few collectors who did take notice of the skippers had to work under handicap. Watson's *Hesperidae Indica* furnished descriptions, but it lacked a key and, in the light of our later knowledge, was very incomplete. He later supplemented the book with a key which appeared in the *Journal of the Bombay Natural History Society* in 1895; and this, with the *Revision of the Oriental Hesperidae* published by Elwes and Edwards in the Transactions of the Zoological Society in 1897 provided the means for diagnosing and recognising the various members of the family. Unfortunately these and the notes and descriptions of genera and species which appeared from time to time in the *Journals of the Bombay N. H. Society* and in other scientific magazines and proceedings seldom reached the ordinary collector.

We are in a better position now. Moore's *Lepidoptera Indica* has been completed though its expense puts it beyond the reach of most; and Evans, in his *Identification of Indian Butterflies* has, after much research, worked out a comprehensive and up-to-date key which will be invaluable. A handbook with descriptions of species is, however, still badly wanted; and it is to be hoped that the *Fauna of India* series will soon be completed to meet the need.

The North-West of India—plains and hills—is not a prolific Hesperid country. Still Evans, whom I follow throughout in the list below, has been able to specify thirty species as occurring in the stretch from Kangra to Mussoorie which includes the Simla Hills. It is probable that some others, either of the Palearctic type of the north and north-west or of the Indo-Malayan groups which extend into Kumaon and Mussoorie, will yet be discovered in the Simla district.

Information as to the habits, seasons of appearance and particular localities affected by species of a family which has been so neglected by the generality of collectors is necessarily scanty. It is not as complete, as applicable to the Simla district itself, as I would wish; but I am able to supplement it to some extent by the analogy of the ways of the species or connected races in localities where my opportunities for field observation have been greater. I am also indebted to General Evans for some notes of his own experiences of the *Hesperidae* in the Simla Hills.

The references, other than those to Evans' *Identification*, are to Watson's *Hesperidae Indica* or to Journals where detailed description of the butterfly may be found.

216. *Hasora alexis alexis*. Fabricius.

(Ev. i. 1 (12); Hesp. Ind. 19).

Occurs in the plains and foothills, but is very local in its habits. A species of low tree seems often to attract it and I have found it flitting round these in the Punjab plains and once on the railway line just above Kalka. It usually appears during or just after the rains and flies more freely in the evening than by day.

*Bibasis sena sena*. Moore.

(Ev. i. 3; Hesp. Ind. 17).

This species has a wide range throughout Eastern and Continental India and along the Himalayas westward as far as Mussoorie. Though not yet recorded from the Punjab, I should not be surprised if it is found by someone who has opportunities for sedulously working the country along the foot of the hills,

217. *Rhopalocampta benjaminii benjaminii*. Guerin.

(Ev. I. 5; Hesp. Ind. 3).

This beautiful skipper is fairly common in Sikkim and Assam but is distinctly rare in the Central and Western Himalayas. It is possible that it is less a rarity than it appears to be; but it is one of the species which seems to fly only in the very early morning and therefore escapes notice. I have only taken one in the Simla region. It was quite an unexpected find. Travelling up by the Railway one June, the train halted in the early morning at Koti station; and, while it waited, I saw a butterfly settle on some shrubs near. I had no net, but managed to knock it down with my hat; and was delighted to discover it was a male '*benjaminii*.' I have taken it from early spring to autumn in the Khasi Hills.

218. *Badamia exclamationis*. Fabricius.

(Ev. I. 6; Hesp. Ind. 1).

Generally common throughout India and extends into the hills to 7,000 ft. at least, though it is rarer here. I have seen it in Simla. Occurs summer and autumn, and flies very rapidly around low trees and hedges. The larva feeds on a species of *Bignonia*.

\*219. *Celænorhynchus pulomaya*. Moore.

(Ev. I. 16 (5); Hesp. Ind. 185).

Recorded from Kangra to the Naga Hills. I have never come across it anywhere west of Sikkim, and Evans tells me he never took it in Simla.

220. *Celænorhynchus leucocera leucocera*. Kollar.

(Ev. I. 16 (13); Hesp. Ind. 192).

Common in the east and central Himalayas, less so in the western. It usually keeps to shaded nullahs and forest glades during the day, but sometimes flies into Simla gardens at dusk. I have only noticed it after the monsoon.

\*221. *Celænorhynchus munda*. Moore.

(Ev. I. 16 (15); Hesp. Ind. 194).

Said to be not rare from Murree eastwards, but neither Evans nor I ever took it in the Simla district and I have not seen it anywhere west of Kumaon. Would have the same habits as the preceding; and, since it is superficially like it, might easily be mistaken for *leucocera* if only seen in flight.

\*222. *Achalarus bifasciatus casyapa*. Moore.

(Ev. I. 18 (2); Hesp. Ind. 224).

A western Himalayan butterfly which is very rare everywhere in its range. I have only a single specimen, taken in Mussoorie in July, as a result of many years' collecting. I found the eastern race, *liliana*, not very rare in Shillong where it was much addicted to flying in the neighbourhood of waterfalls, in and out of the spray.

*Satarupa sambara dohertyi*. Watson.

(Ev. I. 19 (2); Hesp. Ind. 130).

Though not yet recorded from anywhere west of Mussoorie, it is just possible that it may be found very rarely in the Simla district. Its haunts would be near wooded streams at low elevations.

*Tagiades atticus khasiana*. Moore.

(Ev. I. 20 (1); Hesp. Ind. 136).

A wide spread species which is usually common where it occurs. Though not yet reported from anywhere west of the Mussoorie Dun, a rare straggler or two may possibly find its way into the similar country along the foot of the Simla Hills.

\* 223. *Tagiades menaka*. Moore.

(Ev. I. 20 (8); Hesp. Ind. 141).

Found along the Himalayas from Kashmir to Burma and China, but is common only in the east. I got a solitary specimen at 6,000 ft. below Dalhousie and found it fairly plentiful at low elevations in Kumaon; but have never seen it anywhere in the intervening tract. Evans notes it as 'rather rare' in the Simla Hills; and it certainly needs a lot of looking for. It keeps to damp, wooded glens, preferably near water; and its snow-white hindwings make it conspicuous as it flashes about in these surroundings. It settles suddenly with outspread wings on the underside of a leaf and, in doing so, disappears as if by magic. I have taken it from spring to autumn where it is common.

It is worth while noting that, though the next species, *T. litigiosa litigiosa*. Mosch., is supposed to be restricted to the Eastern Himalayas, I have taken typical specimens below Mussoorie and in Kumaon.

224. *Coladenia dan fatih*. Kollar.

(Ev. I. 25 (2); Hesp. Ind. 169).

Should not be rare but is very seldom seen. I have only one specimen from the district—taken in the nullah near Barogh in August. It affects damp country with plenty of undergrowth; and, like the last, flies quickly and settles suddenly.

\* 225. *Sarangesa purendra*. Moore.

(Ev. I. 26 (2); Hesp. Ind. 71).

Has a range from Kangra to Kumaon and is said not to be rare. I have, however, not found it common anywhere and neither Evans nor I ever got it in the Simla district. The few specimens I have secured in other districts have always been before the monsoon in rather dry scrub country at the foot of the Hills. Such a small greyish insect easily escapes notice.

226. *Sarangesa dasahara dasahara*. Moore.

(Ev. I. 26 (3); Hesp. Ind. 72).

The races of *dasahara* are found all over India except the extreme north-west and are generally common everywhere. I have only one from the Simla region—taken at Kalka in May—but it is probably not uncommon in the outer hills and the plains adjoining. Being, like the last, very inconspicuous, it wants looking for.

\* 227. *Odontoptilum angulata*. Felder.

(Ev. I. 31 (1); Hesp. Ind. 153).

Common from Kumaon eastwards but distinctly rare in the Western Himalayas. I have not taken it in the Simla Hills, and Evans tells me he also had not found it here. I have caught it at 5,000 ft. near Mussoorie, but it is more likely to occur in the lower valleys round Kalka. Flies spring and autumn.

*Caprona ransonnettii potiphra*. Hewitson.

(Ev. I. 32 (1); Hesp. Ind. 149).

Never actually recorded from these hills, but it has been noted from the Punjab and I have taken it in the Mussoorie Dun, so that there is considerable chance of its turning up in the country round Kalka.

228. *Hesperia galba*. Fabricius.

(Ev. I. 34 (1); Hesp. Ind. 220).

I have not taken this myself anywhere in the Simla district, and Evans notes it as 'rare'. I have only taken it elsewhere in the plains and the country bordering on them, so I fancy it is more likely to be found in the tracts round Kalka. It flies both spring and autumn and affects open grass meadows.